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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO. <i>AS</i>
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EXAMINER

ART UNIT	PAPER NUMBER <i>6</i>
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DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/596,755

Applicant(s)

Ohtani

Examiner

Robert Kunemund

Group Art Unit

1765



☒ Responsive to communication(s) filed on Jan 24, 2001

☒ This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 2-45 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

☒ Claim(s) 2-45 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All ☐ Some* ☐ None ☐ of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code Serial Number) _____

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3,5

Interview Summary, PTO-413

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1765

The Rejections

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2 to 45 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are not fully supported by the originally filed specification. The specification is limited to crystallization of silicon with a catalyst material. This limitation is not found in the instant claims. Thus, the claims contain material not found in the origin specification.

Claims 2, 3, 5-9, 11-15, 17-24, 26-31, 33-36, 38-41, and 43-45 a further not supported by the instant specification, as the specification is limited to the formation of silicon. The claims recite semiconductor layers, which includes group III-V materials, which are not taught in the specification.

Claims 2 to 19 do not recite the crystallization of amorphous silicon. The claims merely recite treating a layer, which is not limited to crystallization as is the specification. Thus, the claims are not supported by the specification

rejections set forth in this Office action

Art Unit: 1765

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 to 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al. in view of Hirano et al (5,771,110)

The Nakajima et al reference teaches a method of crystallizing semiconductor material. On a substrate an amorphous layer is deposited by standard methods. A metal is then placed in contact with the amorphous layer. The metal promotes crystallization at lower temperatures. A laser or heat source is started at the place where the metal and the amorphous material are in contact to create a temperature gradient. The laser is then moved across the layer to crystallize the amorphous material by temperature gradients, note entire reference. The sole difference between the instant claims and the prior art is the heat source below and above the silicon. However, the Hirano et al reference teaches the crystallization of silicon in devices, including gates by heating with scanning two light banks one above one below, note entire reference. It would have been obvious to one of ordinary skill in the art to modify the Nakajima et al reference by the teachings of Hirano et al reference to heat above and below in order to increase the speed of crystallization and increase control of the growth fronts.

Response to Applicants' Arguments

Applicant's arguments with respect to claims 2 to 45 have been considered but are moot

Art Unit: 1765

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Kunemund whose telephone number is (703) 308-1091. The examiner can normally be reached on Monday through Friday from 7:00 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ben Utech, can be reached on (703) 308-3836. The fax phone number for this Group is (703) 305-6357.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

RMK

March 30, 2001

ROBERT KUNEMUND
PRIMARY EXAMINER